OBJECTIVES: To estimate future scenarios of utilization of knee arthroplasty (KA) revision in the Spanish National Health System at the short and long term and its impact on primary KA utilization. **METHODS:** A discrete event simulation model was built to represent the utilization of KA for 20 years (2011–2031) in the Spanish National Health System, especially the burden of KA revision according to different scenarios of utilization and protheses survival. Data on KA utilization from 1997 to 2011 was obtained from the Spanish Minimum Data Set. Three scenarios of future utilization of primary KA were estimated: 1) fixed number since 2011; 2) fixed age and sex adjusted rates since 2011; and 3) projection using a linear regression model. These three scenarios were combined with two prostheses survival functions L) from a study including primary KA from 1995 to 2000; and H) from the Catalan Registry of Arthroplasty, including primary KA from 2005 to 2013. The model was programmed using ARENA. The simulation results were analyzed at the short (2015) and long-term (2030). **RESULTS:** Variations in the number of revisions depended on both the primary utilization rate and the survival function applied, ranging from 8.3% to 31.6% increase at the short-term and from 38.3% to 176.9% at the long term, percentages corresponding to the combinations of scenario 1 (low primary utilization rate) and survival function H (better survival) versus scenario 3 (high primary utilization rate) and survival function L (worse survival), respectively. The prediction of increase on overall surgeries ranged from 0.1% to 22.3% at the short-term and from 3.7% to 98.2% at the long-term. **CONCLUSIONS:** Projections of the burden of knee arthroplasty provide a quantitative basis for future policy decisions relating to concentration of high complexity procedures, the number of orthopaedic surgeons required to perform these procedures and the number of resources needed.

PMS91

CACHEXIA IN THE US HEALTH CARE SYSTEM

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OBJECTIVES: Cachexia is a medical syndrome associated with several chronic health conditions including many cancers, COPD, HIV, and kidney disease. Cachexia is a wasting type syndrome characterized as a loss in body mass or metabolic dysfunction. The loss in mass is associated with decreases in strength and functional capacity. Currently there is little research into cachexia and our objective is to characterize cachexia patients, their health care utilization and costs. **METHODS:** For this study we utilized one year (2009) of the Nationwide Inpatient Sample (NIS). The NIS represents all inpatient stays at a random 20% sample of hospitals within the United States. We grouped cachexia individuals by primary or secondary diagnosis and then compared those with cachexia to all others in terms of length of stay (LOS) and total cost. Finally we looked into factor predicting increased LOS using a negative binomial model. **RESULTS:** We estimated US prevalence for cachexia related admissions at 161,898 cases. Cachexia patients were older with an average age of 67.95 versus 48.10 in their non-cachexia peers. Hospitalizations associated with cachexia had an increased LOS compared to non-cachexia patients (6 days versus 3) with average costs per stay $4,641.30 greater. Differences were seen in loss of function (LOF) with cachexia patients mostly in the major LOF category (52.60%) whereas non-cachexia patients were spread between minor, moderate, and major LOF (36.28%, 36.11%, and 21.26%). Significant positive predictors of increased LOS among cachexia patients included urban hospital (IRR=1.21 non-teaching urban, IRR= 1.23 teaching urban), having either major (IRR=1.41) or extreme (IRR=2.64) LOF, and having a primary diagnosis of pneumonia (IRR=1.15). **CONCLUSIONS:** Cachexia is a diverse syndrome associated with a number of chronic diseases. We have characterized cachexia and seen it associated with increased length of stay, increased cost, and more severe loss of function compared to those without cachexia.

PMS92

INCREASED BONE MINERAL DENSITY (BMD) IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS (OP) RECEIVING TWO DENOSUMAB INJECTIONS IN ROUTINE CLINICAL PRACTICE IN BULGARIA

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OBJECTIVES: To describe baseline characteristics and changes in BMD T-scores at 1 year, in postmenopausal women with OP receiving 2 denosumab injections in routine clinical practice in Bulgaria. **METHODS:** This retrospective observational study, conducted in 11 specialist (endocrinology or rheumatology) practices scattered geographically across Bulgaria, included postmenopausal women ≥50 years old with a clinical diagnosis of OP, who initiated denosumab 60 mg Q6M on or after Oct 2011 (regulatory approval of denosumab in Bulgaria) and received a follow-up injection within 7 months (until Aug 2013). All study outcomes were recorded as per routine clinical practice/reimbursement requirements, with BMD T-scores recorded (at ≥ 1 site) at first denosumab injection (baseline) and 1-year follow-up. Descriptive statistics were conducted. **RESULTS:** 222 women met the inclusion criteria with a mean (SD) age of 64.2 (±8.54) years; approximately half (49.5%) were <65 years old and13.1% ≥75 years. Mean (SD) age at menopause was 48.1 (±3.98) years. 26.6% reported a prior fragility fracture, with vertebral the most common site (71.2%) followed by hip (6.8%) and other sites (32.2%, excluding hip). At baseline, 2.7% were receiving vitamin D only, 5.9% calcium supplements only and 35.1% both; 31.5% had received prior OP therapy. At baseline, mean (SD) BMD T-score was -3.2 (±0.63) at the lumbar spine (LS; n=189), -2.3 (±0.81) at the total hip (TH; n=75) and -2.7 (±0.71) at the femoral neck (FN; n=137). At 1-year follow-up, all women had BMD assessed at ≥ 1 site; T-scores increased to -2.7 (±0.57) at the LS (n=187), -2.1 (±0.91) at the TH (n=65) and -2.4 (±0.68) at the FN (n=123). **CONCLUSIONS:** Postmenopausal women with OP receiving 2 denosumab injections in Bulgarian clinical practice had a mean age of 64.2 years and experienced improved mean BMD T-scores at the LS, TH, and FN after 1 year. Study funded by Amgen.

PMS93

BASELINE PATIENT CHARACTERISTICS OF A PROSPECTIVE OBSERVATIONAL STUDY TO EVALUATE THE CARE MAP OF WOMEN WITH POSTMENOPAUSAL OSTEOPOROSIS (PMO) IN SWITZERLAND (CAMPOS)

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OBJECTIVES: Report baseline patient characteristics of the CAMPOS study, which is evaluating the PMO care map in Swiss clinical practice. **METHODS:** Between June 2012„ŸMay 2013, specialist osteoporosis centers operating a DXA machine enrolled women diagnosed with PMO who initiated intravenous (IV) ibandronate or zolendronate, or subcutaneous (SC) denosumab (index date) within 6 months prior to center initiation. Study outcomes are recorded at index date (baseline) and any visit in the 24-month observation period thereafter, as available from routine practice. **RESULTS:** Twenty-one centers, mainly in urban regions (81%), of a non-academic nature (76%), and specializing in rheumatology (71%), recruited 275 women. Two-hundred-sixty-three met the inclusion criteria and were included in this baseline analysis; 180 (68%) of these received follow-up care at the specialist center and 83 (32%) were referred back to general practice. At baseline, mean (SD) age was 70.9 (9.7) years and mean time since diagnosis 5.4 (5.4) years (n=248). The following diagnostic parameters and risk factors were assessed at the time of PMO diagnosis: prior osteoporotic fracture, 258 [94%] patients, with 60% reporting this risk factor; DXA bone mineral density (BMD) scan, 255 (97%) patients (hip and either lumbar spine or forearm BMD measured in 231 [88%] patients), mean (SD) BMD T-scores at the femoral neck and lumbar spine -2.34 (0.79; n=230) and -2.89 (1.28; n=232), respectively; calcium and vitamin D status, 260 (99%) patients; fracture history, 258 [98%] patients. **CONCLUSIONS:** In the current study, prevalent fractures were assessed in almost all women initiating IV ibandronate or zolendronate, or SC denosumab, and the majority reported at least one prior fracture. Calcium and vitamin D status, DXA BMD scans and/or fracture history were also routinely assessed at PMO diagnosis.

PMS94

WHAT COULD THE FUTURE HOLD? SIMULATING THE DEMAND FOR OSTEOARTHRITIS (OA) CARE IN ALBERTA TO PLAN A SUSTAINABLE OA CARE SYSTEM

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OBJECTIVES: Osteoarthritis (OA) and the demand for OA care are increasing with the aging population. Policy-makers seek to identify policies to sustainably manage this growing demand, yet envisioning the short- and long-term effects of policy options is difficult within chronic care. We aimed to develop a decision-support tool enabling policy-makers to explore policies and their effects. **METHODS:** We developed a system dynamics (SD) simulation of patient flow across the continuum of OA care in Alberta: from self-directed to primary and specialist care, through surgical interventions, post-surgical follow-up and subsequent re-operations. The simulation was developed using SD modeling principles and an iterative, integrated knowledge translation process, including multiple workshops with clinicians and administrators to define the problem, system boundaries and current patient flow. The resulting simulation was populated with data extracted from administrative databases (e. g. physician claims, inpatient records). **RESULTS:** The model yields patient population, OA care resource requirements and associated cost results at each stage of care over 10 years by region and patient characteristics (e. g. sex). If current practices continue, annual hip and knee replacement surgery volumes are estimated to increase by more than 5,000 between 2015 and 2025. If a 14 week surgical wait-time is implemented in 2015, 600 additional surgeries must be performed in the first year to "catch-up" on the existing surgical queue, yet long-term surgery rates are similar to those without the wait-time target. The costs of the additional surgeries are partly offset by the savings achieved by fewer patients requiring care while awaiting surgery. **CONCLUSIONS:** This simulation can be used as a decision-support tool to estimate changes in patient populations, resource requirements and costs over time that may result from various OA management scenarios. Such results can equip policy makers with additional evidence to make more informed OA care policy decisions.

PMS95

THE USE OF CLINICAL DATA REPOSITORY FOR THE ESTABLISHMENT OF AN OSTEOPOROSIS REGISTRY IN A LARGE HEALTH ORGANIZATION IN ISRAEL: EPIDEMIOLOGIC AND PHARMAEPIDEMIOLOGIC FINDINGS

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OBJECTIVES: Osteoporosis is an important public health issue due to its rising prevalence and excess morbidity and mortality among this population. The present study aimed to demonstrate the use of clinical data repository in Israel's second largest health organization (Maccabi Healthcare Services) to establish a registry of osteoporosis patients and assess its early findings with respect to the epidemiology and burden of the disease, high risk populations, and quality of care. **METHODS:** Included in the registry are patients with history of osteoporosis diagnosis, typical fractures (e. g. closed fractures of proximal femur, vertebral, Colles' and proximal humerus) and or purchases of relevant medications, documented since 2000. In addition, we included patients with low bone density from over 140,000 measurements, using an